

Oral Remarks  
Allan Rutter, Senior Associate, Cambridge Systematics, Inc.  
**Texas Senate Committee on Transportation and Homeland Security**  
University of Texas at El Paso  
10:00 a.m., Tuesday, November 10, 2009

Chairman Carona, Senator Shapleigh, other members of the Committee and of the Texas Legislature, ladies and gentlemen: My name is Allan Rutter, I am a Senior Associate at Cambridge Systematics, Inc. (CS) and I have been invited to share some of the work our firm has done for the Texas Department of Transportation in detailing the future needs for transportation investment for the State of Texas.

We were contracted to describe the current and future needs of the Texas transportation system, both in terms of mobility and maintenance. The results of our report, available on the Department's website, provide an immediate assessment of the state's mobility and maintenance needs and set the context for a qualitative discussion on the impact of transportation investment to the state's economy and quality of life.

Since our report is available on the web, as is an excellent summary of both the needs assessment and financing options prepared by the Department<sup>1</sup>, I will summarize our findings in the following parts:

- Demographic trends driving transportation needs
- Economic trends requiring transportation services
- Transportation needs identified by CS
- Transportation needs identified by the 2030 Committee
- Transportation concerns of Texas business leaders

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<sup>1</sup> "Description of Texas Transportation Mobility and Maintenance Needs", Cambridge Systematics, Inc., June 2008. "Moving Texas to the 21<sup>st</sup> Century: A Report on Transportation Demand, Estimated Investment Needs, and Funding Options for Texas; Presented to the Honorable Eliot Shapleigh, Texas Senate", August 2008, Updated April 2009, Texas Department of Transportation. Both reports found at: [http://www.txdot.gov/txdot\\_library/publications/transportation\\_needs.htm](http://www.txdot.gov/txdot_library/publications/transportation_needs.htm)

## Demographic Trends Driving Transportation Needs

Texas is a large, rapidly growing state:

- Between 2000 and 2007, Texas' population increased by nearly 3 million people, bringing the total population to over 22.5 million people in 2005 (Texas State Data Center).
- The Texas State Data Center projects the population to increase by 41 percent to 31.8 million between 2005 and 2030.<sup>2</sup>
- More than 87 percent of Texans live in the state's metropolitan statistical areas (MSAs).
- Between 2000 and 2007, more than 96 percent of the state's population growth occurred in the MSAs. The top five metropolitan areas alone accounted for 67 percent of the increase (Texas State Data Center).

Similar to population, the Texas economy has also experienced rapid growth:

- Overall, the state's economy expanded by 80 percent from 1990 to 2005, as Gross State Product (GSP), grew from \$462 billion to nearly \$832 billion (in constant 2000 dollars) (Texas Comptroller 2007).
- Robust growth is expected to continue into the future, with total GSP reaching nearly \$1.7 trillion by 2030.

Increases in income and prosperity lead to increases in vehicle ownership and vehicle-miles traveled (VMT).

- By 2030, registered vehicles in Texas are expected to increase by almost 98 percent from 18.0 million in 2000 to 35.5 million in 2030.
- The average annual VMT on all state roadways in 2005 was 234.2 billion, representing a nine percent increase over the VMT in 2000 (TxDOT Pocket Facts). If historical trends continue and the VMT in Texas continues to increase by approximately two percent each year, Texas is expected to experience a 70 percent increase in VMT by 2030 with 368 billion VMT annually.

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<sup>2</sup> Population projections based on Scenario 0.5 prepared by the Texas State Data Center.

Growth in population, income, and prosperity places greater demands on the transportation system. However, roadway capacity enhancements have not kept up with this growing demand.

- During the 15 years from 1992 to 2006, VMT in Texas grew approximately 10 times faster than lane miles added to the system.
- The 2007 *Urban Mobility Report* showed congestion in eight Texas cities (Dallas/Fort Worth, Houston, San Antonio, Austin, El Paso, Corpus Christi, Beaumont, Laredo, and Brownsville) caused 342 million hours of delay and 243 million gallons of excess fuel consumption during 2005 (TTI 2007).
- Overall, travelers in these eight Texas cities experienced a 260 percent increase in annual hours of delay between 1982 and 2005.

### **Economic Trends Requiring Transportation Services**

Goods-dependent industries accounted for 46 percent of the Texas GSP on average between 1990 and 2005 (compared to a service industry average of 54 percent). Despite the slight increase in the importance of the service industry over the next 25 years, the goods-dependent industries are expected to continue to contribute significantly to the Texas GSP, and contribute directly to freight volumes on Texas roadways.

- Within the goods-dependent industries, the manufacturing sector and the trade/transportation/utilities sector contributed 78 percent of the goods-dependent industry GSP and 37 percent of the total Texas GSP in 2005.
- While the trade/transportation/utilities sector was the greatest contributor to GSP among the goods-dependent industries between 1990 and 2005, the forecasts prepared by the Texas Comptroller indicate the manufacturing sector is expected to increase 165 percent by 2030.
- By 2030, the manufacturing sector is expected to contribute the highest economic output to state GSP.

Freight traveling to or through the state contributes to demand on the Texas transportation system. Since the implementation of the North American Free Trade Agreement (NAFTA) in 1994, trade between the United States, Mexico, and Canada has grown

significantly. The Texas highway system is the single most important infrastructure link between the economies of the United States and Mexico.

- In 2006, 68 percent of trucks and 91 percent of rail containers entering the U.S. from Mexico crossed the border at Texas points of entry (BTS 2006).
- As reported in the *Texas NAFTA Study Update* (2007), NAFTA tonnage on Texas highways and railroads is forecasted to increase by nearly 207 percent through 2030.
- Forecasts indicate truck tonnage will grow by 251 percent by 2030 and the number of trucks carrying NAFTA goods is expected to increase by 263 percent.
- NAFTA truck VMT is expected to grow by more than 330 percent by 2030.
- The NAFTA percentage of total statewide truck VMT is projected to grow from nine percent in 2003 to 22 percent of all truck VMT in 2030.

### **Transportation Needs Identified**

To develop a better understanding of the state's needs, CS conducted a needs assessment by mode to estimate the investment required to meet the growing demands on the state's transportation system over the next 25 years. The needs summarized in Table 1 represent the average annual investments (2005 to 2030) required to improve statewide mobility by 2030, investments that have tangible mobility benefits to the state. Our complete report explains these estimates in more detail and describes the methodology for developing the estimates. The needs estimates includes costs of multiple entities, levels of government and private companies.

**Table 1. Total Statewide Multimodal Transportation Needs for 2005 to 2030**  
(in Millions of 2003 Dollars)

Mode	Average Annual Needs Estimate (2005-2030)
Highways (Capital and Maintenance)	\$15,928
Public Transportation (Capital)	\$1,183
Freight Rail and Intermodal Freight (Cap)	\$637
Marine (Capital)	\$255
Aviation (Capital)	
Commercial	\$893
Noncommercial	\$158
Bicycle and Pedestrian (Capital)	\$29
<b>Total, Average Annual Needs</b>	<b>\$19,083</b>

Source: Cambridge Systematics, Inc. Estimates of all needs were made in 2000 dollars and adjusted to 2003 dollars by applying Consumer Price Index inflation factors.

As CS was preparing the June 2008 report, the Texas Transportation Commission had created a committee of 12 respected business leaders designated as the 2030 Committee. This group held a number of public hearings and was assisted in its work by transportation experts from Texas universities and research organizations. Table 2 represents the average annual investments recommended to improve mobility, increase safety, restore infrastructure and bring substantial economic benefits. These needs also involve costs that are likely to be shared among levels of government and private companies.

**Table 2. 2030 Committee's Total Statewide Multimodal Transportation Needs for 2009 to 2030 (in Millions of 2008 Dollars)**

Mode	Total Investment Needed (2009-2030)	Average Annual Needs Estimate (2009-2030)
Highway Needs:		
Pavements	\$ 89,000	\$ 4,000
Bridges	\$ 36,100	\$1,600
Urban Mobility	\$171,000	\$ 7,800
Rural Mobility and Safety	\$ 16,900	\$ 800
Total, Highway System Needs	\$ 313,000	\$ 14,200
Public Transportation (Capital)	\$36,400	\$ 1,700
Freight Rail and Intermodal Freight (Cap)	\$14,200	\$ 600
Marine (Capital)	\$3,600	\$ 200
Aviation (Capital)		
Commercial	\$6,700	\$ 300
Noncommercial	\$1,700	\$ 100
<b>Total Needs</b>	<b>\$ 375,600</b>	<b>\$ 17,100</b>

Source: 2030 Committee Texas Transportation Needs Report, Texas Department of Transportation, February 2009

The 2030 Committee report also estimated possible benefits from improving urban and rural mobility. For urban mobility improvements, the following benefits were quantified: fuel and time savings, reduced costs of goods and services, increased business profitability and job creation, increased local government tax revenues, and economic benefits of construction activity. These aggregate benefits over the years 2009-20030 were estimated at \$1,114 billion, over six times the \$171 billion investment needed over that period. Similarly, the report quantified the benefits for rural mobility and safety improvements: fuel and time savings, economic benefits and tax revenues and safety. The aggregate benefits for the \$16.9 billion investment in rural mobility and safety was estimated to bring \$106 billion in benefits, well over 5 times the investment amount.

In the August 2008 summary report, the Texas Department of Transportation estimated that approximately \$11 billion were being expended on the transportation elements included in the CS needs estimate,<sup>3</sup> almost \$10 billion of which was for capital and maintenance

<sup>3</sup> Table 3, Page 6, Moving Texas into the 21<sup>st</sup> Century, August 2008.

expenditures on highways and local roads. As is the case for the needs estimates, these expenditure estimates include spending by a variety of federal, state and local governments. The current level of spending for the transportation network, \$11 billion, is \$8 to \$6 billion less than the \$19 and \$17 billion in average annual transportation needs identified by the CS report and 2030 Committee report, respectively. The \$10 billion in highway and road spending is \$5.9 to \$4.2 billion less than the \$15.9 billion and \$14.2 billion average annual highway needs in the CS and 2030 Committee reports.

### Transportation Concerns of Texas Business Leaders

CS, in collaboration with TxDOT GPA staff, developed a targeted list of interview participants representing a diverse mix of geographical, business, and community interests within the state. Interview participants included representatives from:

- Several chambers of commerce across the state;
- Economic development and transportation planning organizations; and
- A variety of industries, including manufacturing, distributing, shipping, land development, medical services, and transportation.

Our report summarizes the results of these interviews. Rather than summarize what was said, allow me to close by letting the committee hear directly from some of the leaders we interviewed.

A Chamber of Commerce Vice President described the effects of congestion on a region's quality of life:

*CEOs of both major and small companies cite traffic congestion as a huge concern, if not their primary concern, in attracting and retaining talented workers. Mobility constraints affect the quality of life for employees by influencing the amount of time people can spend with their families. As costs of living rise and quality of life declines, our urban community will become a less attractive place to live and work (April 2008).*

A manufacturing company manager explained how congestion, left unchecked, will expand beyond current urban borders:

*While locating one's business on the edge of a growing city can protect them from urban congestion in the short term, ultimately growth and congestion will expand outward as transportation demand exceeds supply. Rather than ignoring the problem, coordinated and proactive transportation planning and economic development initiatives should be undertaken concurrently at state, city, and local levels to prepare for and sustain the economic growth the city is blessed to have (May 2008).*

A Senior Vice President of a major Texas developer concurs, also stating that Texas must be smarter about using the financial tools at the State's disposal:

*We need to identify new revenue sources and we need to use all financing resources available to us. We need to fund projects that will leverage the highest return on our investment and use those returns to fund additional projects (April 2008).*

A Senior Vice President of a major healthcare provider explains that Texas must also seek investments from the private sector:

*It is unrealistic to think that we will have a lot more money in the future to use toward transportation investment. Increased privatization and public-private partnerships may provide the best possibility to build needed roads in a reasonable time frame and at a reasonable price (May 2008).*

While the consequences of inaction are great, many respondents remain optimistic that Texas decision-makers will find a way to make it work. As the president of an economic development corporation stated:

*If the state can solve its transportation funding problems, it stands to be a big winner in retaining and attracting business. Texas needs innovation to identify and implement additional funding mechanisms that can succeed in meeting the state's growing transportation demand (April 2008).*

## Conclusion

Developing comprehensive mobility and maintenance solutions to meet the state's transportation needs requires timely action by state legislators, informed by participation from regional, city, and local leaders. To promote and sustain its future economic vitality, Texas must plan for ways to expand its multimodal transportation network to handle the expected growth in population and international trade.